IN THE CLAIMS:

Please cancel claims 47 and 102 without prejudice to the pursuit thereof in a continuing application.

Please amend claims 9 and 153 as follows:

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9. (Once Amended) The method of claim 4 where the second precursor molecule is a polymer with a carbon-carbon multiple bond on each terminus.

B2

153. (Once Amended) The method of claim 149 where the catalyst is platinum (II) bis(acetylacetonate).

Please enter new claims 205-220 as follows:

--205. (New) A method of forming a chemically selective sorbent film, comprising:

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placing on a substrate a composition containing a first precursor molecule containing at least two silicon hydride groups, a second precursor molecule containing at least two carbon-carbon multiple bonds, and a photoactivatable catalyst; and

exposing at least a portion of said composition to light of a type and in an amount sufficient to cause hydrosilylation reactions to occur in the composition to provide a chemically selective sorbent film;

wherein the chemically selective sorbent film has a glass-to-rubber transition temperature below the operating temperature of the chemically selective sorbent film.

new (not dup?)

206. (New) A method of forming a chemically selective sorbent film, comprising:

placing on a substrate a composition containing a first precursor molecule containing at least two silicon hydride groups, a second precursor molecule containing at least two carbon-carbon multiple bonds, and a photoactivatable catalyst;

exposing at least a portion of said composition to light of a type and in an amount sufficient to cause hydrosilylation reactions to occur in the composition to provide a chemically selective sorbent film.

Duplicate?

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207. (New) The method of claim 206, further comprising:

leaving an unexposed region;

allowing sufficient time for hydrosilylation reactions to occur within exposed regions; and

removing the unexposed composition from the substrate, leaving the exposed composition on the substrate, by contacting the composition with a solvent effective to dissolve the unexposed composition.

208. (New) The method of claim 207, further comprising:

placing on the substrate a second composition containing a first precursor molecule containing at least two silicon hydride groups, a second precursor molecule containing at least two carbon-carbon multiple bonds, and a photoactivatable catalyst;

exposing at least a portion of said second composition to light of a type and in an amount sufficient to cause hydrosilylation reactions to occur in the second composition to provide a second chemically selective sorbent film;

leaving an unexposed region of the second composition;

allowing sufficient time for hydrosilylation reactions to occur within exposed regions of the second composition; and

removing the unexposed region of the second composition from the substrate, leaving the exposed region of the second composition on the substrate, by contacting the composition with a solvent effective to dissolve the unexposed composition.

209. (New) The method of claim 208 wherein the first chemically selective sorbent film has a different pattern or is at a different location than the second chemically selective sorbent film.

210. (New) The method of 208 wherein the first chemically selective sorbent film has a different functionality than the second chemically selective sorbent film.

211. (New) The method of claim 208, further comprising repeating said placing, exposing, leaving, allowing and removing one or more additional times with one or more additional compositions.

212. (New) The method of claim 206, further comprising, before said placing:

modifying the surface to include a plurality of reactive groups effective to participate in the hydrosilylation reaction, wherein the reactive groups participate in the reaction by reacting with a member selected from the group consisting of the first precursor molecule, the second precursor molecule, and each of the first and second precursor molecules.

213. (New) The method of claim 212 wherein said modifying comprises reacting a coupling agent with the surface of said substrate, said coupling agent including a reactive group selected from the group consisting of a silicon hydride group, a carbon-carbon multiple bond, and each of a silicon hydride group and a carbon-carbon multiple bond.

214. (New) The method of claim 206 wherein the chemically selective sorbent film has a glass-to-rubber transition temperature below the operating temperature of the chemically selective sorbent film.

215. (New) A method for making a chemical sensor, comprising:

providing a clean substrate;

reacting a coupling agent with the surface of said substrate, said coupling agent including a reactive group selected from the group consisting of a silicon hydride group, a carbon-carbon multiple bond, and each of a silicon hydride group and a carbon-carbon multiple bond;

placing on the substrate a composition containing a first precursor molecule containing at least two silicon hydride groups, a second precursor molecule containing at least two carbon-carbon multiple bonds, and a photoactivatable catalyst;

exposing the composition to a predetermined pattern of light of a type and in an amount sufficient to cause hydrosilylation reactions to occur in regions of the composition exposed to the light;

allowing sufficient time for hydrosilylation reactions to occur within the exposed regions; and

removing the unexposed composition from the substrate, leaving the exposed composition on the substrate, by contacting the composition with a solvent effective to dissolve the unexposed composition, to thereby provide a chemically selective sorbent film useful as a chemical sensor.

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216. (New) The method of claim 215 wherein the chemically selective sorbent film has a glass-to-rubber transition temperature below the operating temperature of the chemical sensor.

217. (New) The method of claim 215, further comprising repeating said placing, exposing, allowing and removing with a second composition to provide a second chemically selective sorbent film.

218. (New) The method of claim 217 wherein the first chemically selective sorbent film has a different pattern or is at a different location than the second chemically selective sorbent film.

219. (New) The method of 217 wherein the first chemically selective sorbent film has a different functionality than the second chemically selective sorbent film.